

REVISION OF SOUTH AMERICAN SPECIES OF *PERYMENIUM*
(ASTERACEAE, HELIANTHEAE)

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ABSTRACT

The genus *Perymenium* in South America is revised. In this region it is composed of seven species largely confined to montane habitats of Colombia, Ecuador, and Perú. Three new species are described: *P. celendianum* B.L. Turner, from Cajamarca, Perú; *P. colombianum* B.L. Turner, from Antioquia, Colombia; and *P. huascaranum* B.L. Turner, from Ancash, Perú. In addition, the often used names *P. ecuadoricum*, *P. matthewsii*, and *P. serratum* are reduced to synonymy under the earlier name *P. jelskii*. A key to species and complete synonymy is provided along with distributional maps.

KEY WORDS: Asteraceae, Heliantheae, *Perymenium*, Colombia, Ecuador, Perú

Fay (1978) provided a revisional study of the North American species of *Perymenium*, a group of closely related taxa readily recognized by their mostly fertile ray florets, 3-sided ray achenes, and radially flattened, usually winged, disk achenes. Both achene types bear a pappus of 10-20 fragile, readily detached, hispidulous bristles which arise from a well-defined boss, and chromosome numbers on a base of $x = 15$.

Subsequent to Fay's treatment, in which 33 species were recognized for North America, Turner (1988a) expanded the genus somewhat with the transfer of the monotypic genus *Perymeniopsis* H. Rob. into *Perymenium* (based upon *Oyedaea ovalifolia* A. Gray), the latter largely distinguished by its sterile ray florets. In addition, Turner (1987, 1988b, 1991, 1992a, 1992b, 1993) added six new species from México, and Panero *et al.* (1993) added another, bringing to about 40 the number of species currently recognized for North America.

The South American taxa are comparatively poorly known, and while only seven species are recognized here, additional species are certain to be added as

exploration of the Andean regions is expanded, especially in Perú where the center of diversity of *Perymenium* in South America appears to be. Compared to the North American species (mainly Mexican), the South American elements are relatively homogeneous, the species largely recognized by leaf shape and vestiture, and they probably represent a monophyletic assemblage, perhaps most closely related to the Central American species *P. grande* Hemsl., but this is largely speculation, based mainly upon geographic considerations.

KEY TO SPECIES

1. Leaves linear-lanceolate, 8-10 times as long as wide. *P. lineare*
1. Leaves variously ovate to deltoid, 2-5 times as long as wide.
 2. Anther appendages black or blackish; inner involucre bracts 4-6 mm wide near their apices; Colombia. *P. colombianum*
 2. Anther appendages yellow; inner involucre bracts mostly 2-4 mm wide near their apices; Ecuador and Perú.
 3. Involucres 10-12 mm high; peduncles densely beset with spreading white-pilose hairs 1-2 mm long; occurring from 3300-3900 m, Huascarán Natl. Park, Perú. *P. huascanum*
 3. Involucres 5-9 mm high; peduncles variously pubescent but not as described in the above; occurring from 1000-3200 m, widespread.
 4. Perennial herbs 20-100 cm high; leaves mostly 2-4(5) cm long. *P. bishopii*
 4. Shrubs or small trees (1-2) 2-6 m high; leaves mostly 5-15 cm long.
 5. Leaves variously pilose beneath, the hairs mostly erect but never inter-tangled and forming a velvety undersurface so as to give the blades a bicolored aspect; widespread along the front ranges of the Andes, Colombia to central Perú. *P. jelskii*
 5. Leaves densely pilose or strigose-pilose beneath, the white or whitish hairs mostly to some degree intertangled forming velvety undersurfaces giving the blades a bicolored aspect; Perú mostly interior ranges of the Andes.
 6. Leaves clearly rugose above, the undersurfaces with markedly raised-reticulate venation, the vestiture of essentially erect or ascending pilose hairs, these all alike

or nearly so; Dept. Celendín, Cajamarca, Perú.

..... *P. celendianum*

6. Leaves not as described in the above, the undersurfaces with a matted-mesh of entangled hairs, the major veins with stiffly appressed straight hairs; widespread in Perú from southern Amazonas Province to Apurímac and Cusco Provinces. *P. featherstonei*

Perymenium bishopii H. Rob., Phytologia 52:54. 1983. TYPE: PERU. Cajamarca: 8 km E of Cajamarca along road to Celendín, 8500 ft, 9 Jan 1983, R.M. King & L.E. Bishop 9122 (HOLOTYPE: US!; Photoholotypes: MO!, NY!; Isotypes: F!, NY!).

Spindly suffruticose perennial herbs 25-100 cm high. Stems brown, strigose with hairs appressed upwards. Larger leaves on primary shoots mostly 3-5 cm long, 0.8-1.5 cm wide; petioles 1-3 mm long; blades lanceolate, somewhat bicolored, 3-nervate from or near the base, densely pubescent beneath with tufts of entangled soft hairs, the veins prominently strigose with straight stout appressed hairs 1-2 mm long, the margins weakly crenulate to crenulodentate. Capitulescence a loose arrangement of 1-10 heads, the ultimate peduncles mostly 2-10 cm long. Fruiting involucre broadly campanulate to hemispheric, 5-8 mm high, 15-20 mm across, the bracts ca. 3-seriate, subgraduate, broadly ovate to ovate-oval, minutely strigose, weakly ciliate. Ray florets 8-13, the ligules yellow, 10-15 mm long. Disk florets numerous (50+), the corollas yellow, 4-5 mm long, glabrous, the tube ca. 1 mm long. Ray achenes 3-sided, ca. 3 mm long, weakly winged above, the pappus of ca. 15 bristles 1-2 mm long; disk achenes tangentially flattened, ca. 3 mm long, narrowly winged, the pappus of ca. 15 bristles 1-2 mm long.

DISTRIBUTION AND ECOLOGY (Figure 1): known only from northern Perú in the Provinces of Cajamarca and Ancash where it reportedly occurs along roadsides and in disturbed brushy areas, 2700-3200 m; flowering December-March.

In his original description, Robinson correctly noted this species is seemingly closest to *Perymenium featherstonei*. The latter species is readily distinguished from *P. bishopii* by its decidedly shrubby habit (mostly 1.5-3.0 m high vs. 1 m or less) and mostly larger leaves (mostly 4-8 cm long vs. 3-5 cm; 1.5-3.0 cm wide vs. 0.8-1.5 cm). Indeed, *P. featherstonei* appears to stand somewhere between *P. bishopii* and *P. jelskii*, the latter having a yet more robust habit and larger leaves, the latter with hairs scarcely matted, if at all.

REPRESENTATIVE SPECIMENS: PERU. Ancash: Prov. Bolognesi, below Chiquián, 3100-3200 m, 9 May 1950, Ferreyra 7314 (US); Prov. Carhuaz,



Figure 1. Distribution of *Perymenium bishopii* (closed circle) and *P. celendianum* (open circle).

6 km S of Carhuaz, ca. 7000 ft, 10 Jan 1982, *King & Collins 9025* (US). Cajamarca: Prov. Cajamarca, 27 km N. of San Marcos, ca. 2765 m, 11 Jan 1983, *Dillon et al. 2866* (F,US).

Perymenium celendianum B.L. Turner, *sp. nov.* TYPE: PERU. Cajamarca: Prov. Celendn, canyon of the Río Marañón above Balsas, 8.5 km below summit of the road to Celendín, 2740 m, 27 May 1964, *Paul C. Hutchison & J. Kenneth Wright 5390* (HOLOTYPE: F!; Isotypes: GH!,NY!). According to information on a separate label ("additional field notes"), the plant was said to be "Common, but mostly finished flowering. A dominant species here."

Perymenio featherstonei S.F. Blake similis sed vestimento foliorum denso uniformi trichomatibus erectis molliisque, foliis valde rugosis in paginis superis nervis subtus elevatis valde reticulatis, et bracteis involucri valde ciliatis (vs. prope vel omnino eciliatis) differt.

Shrubs 1-2 m high. Stems brownish, pilose with white spreading hairs 1-2 mm long. Larger leaves mostly 5-9 cm long, 3.0-4.5 cm wide; petioles 5-15 mm long; blades ovate, markedly rugose, somewhat bicolored, 3-nervate from or very near the base, markedly pilose above and below with soft slender hairs, the latter essentially uniform in texture, the lower surfaces markedly reticulate and the hairs erect and more dense than upon the upper surfaces, the margins rather uniformly crenulodentate. Heads 10-30, arranged in terminal cymes, the ultimate peduncles mostly 1-3 cm long. Fruiting involucre broadly campanulate, 5-7 mm high, 12-16 mm across, 3-4 seriate, graduate, the outer most bracts broadly ovate or oval, 2-3 mm long, the inner bracts oblanceolate with markedly white-ciliate margins. Pales oblanceolate with abruptly acute apices, ca. 2/3 as long as the subtended florets. Ray florets 11-15, the ligules yellow, 10-18 mm long. Disk florets numerous (50+), the corollas ca. 4.5 mm long, glabrous, the tube ca. 1-2 mm long. Anther appendages yellow, glandular. Ray achenes 3-sided, faintly winged, ca. 3 mm long, the pappus of 10-12 bristles ca. 1 mm long, a single longer bristle ca. 2 mm long; disk achenes radially compressed, ca. 2.5 mm long, scarcely winged, if at all, transversely corrugate, the pappus of 15-20 bristles ca. 1 mm long, and 1 or 2 longer bristles 2-3 mm long.

DISTRIBUTION AND ECOLOGY (Figure 1). Known only from type material.

Perymenium celendianum is obviously closely related to *P. featherstonei* but differs in having markedly rugose leaves, the undersurfaces with markedly raised reticulate veins and a thick vestiture of very uniform erect soft hairs; in

addition, the inner bracts are markedly ciliate and the achenes possess longer pappus bristles.

The Province of Celendín is not known to contain yet other species of *Perymenium*, although the District of Cajamarca, to which it belongs, contains at least three other species, namely *P. bishopii*, *P. featherstonei*, and *P. jelskii*. So far as known none of these has been collected growing with another at the same locale, each appearing to have its own habitat proclivities.

***Perymenium colombianum* B.L. Turner, *sp. nov.* TYPE: COLOMBIA.**

Antioquia: Near top of Cordillera Occidental, 44 km NW of Antioquia, montane forest remnant on steep slope above road, 2100 m, 9 Oct 1977, *Al Gentry & Henry Leon 20297* (HOLOTYPE: MO!).

Perymenio jelskii (Hieron.) S.F. Blake similis sed capitulis majoribus plerumque paucioribus in pedunculis longioribus (4-10 cm vs. 1-4 cm) et appendicibus antherarum atris vel denigratis (vs. luteis) differt.

Shrub or small tree to 4 m high. Stems densely appressed pilose. Larger leaves 8-12 cm long, 3-6 cm wide; petioles 1-2 cm long; blades broadly lanceolate to ovate, 3-nervate from somewhat above the base, the undersurfaces appressed pilose with relatively uniform hairs, the margins crenulodenticulate. Heads mostly 3-8 to a stem, arranged in very loose cymes, the ultimate peduncles mostly 4-12 cm long. Involucres hemispheric, 10-15 mm high, 20-30 mm across (pressed), the bracts subgraduate, 3-4 seriate, the outer series broadly obovate, loose, herbaceous, the inner series similar but longer and scarious throughout, reticulate-veined with rounded apices. Pales shorter than the florets, their apices erect, acute. Ray florets 8-13, the ligules yellow, ca. 15 mm long, 4-5 mm wide. Disk florets numerous (50+), the corollas yellow, glabrous, 5-6 mm long, the tubes ca. 1.5 mm long. Anther appendages black or blackish, the dorsal side with 6-10 sessile glands. Ray achenes 3-sided, ca. 4 mm long, wingless or nearly so, the pappus of 10-15 bristles 1-2 mm long; disk achenes ca. 4 mm long, narrowly winged throughout, the pappus of 10-15 bristles 1-3 mm long.

This taxon in habit and vegetative features much resembles *Perymenium jelskii*. It is readily distinguished from the latter by its fewer, larger heads on longer peduncles. Technically, it can also be recognized by its black or blackish anther appendages with 6 or more dorsal glands (vs. yellow with fewer glands in *P. jelskii*).

ADDITIONAL SPECIMEN EXAMINED: COLOMBIA. "Palacé" without collector or date but numbered as "B.T. 505" and written on a printed label with the heading, "Herbarium Lehmannianum Colombianum" (F).

Perymenium featherstonei S.F. Blake, J. Wash. Acad. Sci. 16:222. 1926.

TYPE: PERU. Junín: river canyon at Cabello, a hacienda ca. 14.5 km above Huertas, 2440 m, 25 Jun 1922, *Macbride & Featherstone 1329* (HOLOTYPE: F!; Photoholotype: NY!; Isotypes: GH!, US!).

Spindly shrublet or shrub 1-3 m high. Stems mostly closely appressed-strigose with upturned hairs. Larger leaves mostly 4-8 cm long, 1.5-3.0 cm wide; petioles 0.5-1.0 cm long; blades broadly lanceolate to ovate, rugose, 3-nervate from or near the base, densely white-pubescent beneath with mostly matted or entangled hairs, along the major veins an array of stout appressed hairs 1.0-2.0 mm long, the margins crenulodentate. Capitulescence of 3-20 heads arranged in terminal open cymes, the ultimate peduncles mostly 2-7 cm long. Involucres, in fruit, broadly campanulate, 6-8 mm high, 10-15 mm wide, the bracts ca. 3-seriate, subgraduate, minutely hispidulous, broadly ovate to oval-ovate, their apices mostly rounded, minutely ciliate or not. Ray florets 8-13, the ligules yellow or orange-yellow, 8-12 mm long. Disk florets numerous (50+), the corollas yellow, 5-6 mm long, glabrous, the tubes ca. 1.3 mm long. Ray achenes ca. 3 mm long, 3-sided, faintly winged above, the pappus of 15-20 bristles to 1 mm long; disk achenes similar to those of the ray, but radially compressed and with somewhat larger wings, the pappus bristles mostly 1-2 mm long.

DISTRIBUTION AND ECOLOGY (Figure 2): Northern Perú, mostly along ravines, canyons and streams, rocky places in shallow soils, 1200-2500 m; January-June.

The small, somewhat bicolored leaves with hairs densely matted on the lower surfaces readily distinguish this taxon from *Perymenium jelskii*. The two species are not known to grow together but they have been collected in relatively close proximity in the Provinces of Amazonas and Cajamarca (Figure 3); in general, however, *P. featherstonei* occurs along the eastern side of the Andes, while *P. jelskii* is largely confined to the more western portions.

REPRESENTATIVE SPECIMENS: PERU. Amazonas: 6 kms E of Chapoyas along the road to Mendoza, ca. 6700 ft, 12 Jan 1983, *King & Bishop 9159* (F,GH,MO,US). Ancash: ca. 6 km S of Carhuaz, ca. 7000 ft, 10 Jan 1982, *King & Collins 9025* (F,US). Apurímac: Prov. Andahuaylas, lower Río Chincheros, 2200 m, 1 Mar 1939, *Stork & Horton 10786* (F,GH). Cajamarca: Prov. Cajamarca, ca. 22.5 km S of Cajamarca on road to Chilete, ca. 2740 m, 19 Jan 1983, *Dillon et al. 3039* (F). Huánuco: Huánuco, ca. 7000 ft, 28 Apr 1923, *Macbride 3524* (F,GH,US).

Perymenium huascaranum B.L. Turner, *sp. nov.* TYPE: PERU. Ancash: Prov. Huaylas, Huascarán National Park, Quebrada Santa Cruz between Lago Santa Cruz Chico and Cashapampa exit, 3350-3870 m, 17 Jan 1985, *D.N. Smith, L. Sanchez, & H. Vidaurre 9335* (HOLOTYPE: MO!).



Figure 2. Distribution of *Perymenium colombianum* (solid square), *P. feath-erstonei* (open circle), and *P. huascanum* (closed circle).



Figure 3. Distribution of *Perymenium jelskii* (closed circles) and *P. lineare* (open circles).

Perymenio featherstonei S.F. Blake similis sed differt capitulis majoribus bracteis involucro herbaceis subaequalibusque, pedunculis crassis, et pedunculis ac caulibus superis dense velatis trichomatibus longis pilosis albisque.

Shrublet to 1.5 m high. Stems brown, densely pilose, the hairs 1-2 mm long. Leaves 5-7 cm long, 2.2-3.0 cm wide; petioles 2-4 mm long; blades broadly lanceolate to ovate, 3-nervate from 6-8 mm above the base, densely pubescent beneath with soft intermeshed pilose hairs, the major nerves with straight slender appressed hairs 1-2 mm long, the margins crenulodentate. Heads arranged 3 to a shoot, borne upon thick subequal densely pilose peduncles 2-3 cm long. Involucres hemispheric, 10-12 mm high, 20-30 mm wide (pressed), the bracts 2-3 seriate, herbaceous, green, subequal, broadly ovate, the innermost with broadly acute to obtuse apices, the surfaces loosely pilose. Ray florets ca. 18, the rays deep yellow, ca. 15 mm long, ca. 6 mm wide. Disk florets numerous, the corollas yellow, 5-6 mm long, glabrous, the tubes ca. 1 mm long. Disk achenes (immature) ca. 3 mm long, the pappus of 15-20 bristles 1-3 mm long.

DISTRIBUTION AND ECOLOGY (Figure 2): Known only from the type locality where it reportedly occurs in relatively arid shrublands, 3350-3870 m.

The species is seemingly most closely related to *Perymenium featherstonei*, having the leaves of the latter, but readily distinguished by its much larger, fewer heads with subequal herbaceous bracts and densely pilose vestiture of its peduncles. Additionally, *P. huascanum* reportedly occurs between 3350-3870 m, while *P. featherstonei* is seemingly confined to an elevational range of 1200-2800 m.

Perymenium jelskii (Hieron.) S.F. Blake, Bot. Gaz. 74:423. 1922. **BA-
SYNONYM:** *Wedelia jelskii* Hieron., Bot. Jahrb. Syst. 36:488. 1905.
TYPE: PERU. Cajamarca: Prov. Cutervo, "prope Callacate", Apr
1879, *C. de Jelski 660* (**LECTOTYPE** [selected here]: B, original collec-
tion destroyed; **Isolectotype:** US!). Hieronymus, in his protologue, also
cited *Jelski 662* from "prope Callacate"; photographs of this paratype
are at F!, TEX!, and a fragment is in a packet at US!).

Perymenium matthewsii S.F. Blake, J. Bot. 53:136. 1915. **TYPE:**
PERU. Lima: Prov. Lima: "Purruchuca" [Puruchuca?], *Matthews*
765 (**LECTOTYPE** [selected here]: K; **Isolectotypes:** B, NY!; Pho-
toisolectotypes and fragment: GH!).

Perymenium serratum S.F. Blake, J. Bot. 53:136. 1915. **PERU.** Ama-
zonas: Prov. Chachapoyas: Chachapoyas, *Matthews s.n.* (**LEC-
TOTYPE** [selected here]: B; **Photolectotype** and fragment: GH!;

Isolectotype: B; Fragment from B isolectotype GH!; Probable isolectotype: GH!).

Perymenium ecuadoricum S.F. Blake, Bot. Gaz. 74:423. 1922. TYPE: ECUADOR. Chimborazo: Huigra, 3 Aug 1920, *E.W.D. & Mary M. Holway 828* (HOLOTYPE: US!).

Variouly described as a shrublet, small tree or tree 1-6 m high. Stems strigo-pilose to pilose with griseous hairs. Larger leaves (on primary shoots) mostly 5-15 cm long, 3-6 cm wide; petioles 1-3 cm long; blades ovate to broadly ovate, 3-nervate from near or somewhat above the base, moderately to densely pilose above and below with mostly soft, erect or ascending-recurved, quite similar hairs, the margins dentate to crenulodentate. Capitulescence of 3-30 heads arranged in terminal cymes, the ultimate peduncles mostly 1-5 cm long (rarely up to 10 cm long). Involucres broadly campanulate, in fruit 1-2 cm across, 6-10 mm high, the bracts 3-4 seriate, subimbricate, ovate to ovate-elliptic, variously strigose to nearly glabrate. Ray florets 8-21, the ligules yellow, 1-2 cm long. Disk florets numerous, the corollas 4-5 mm long, the tube ca. 1 mm long, glabrous except for the hispidulous lobes. Achenes, those of the ray, 3-sided, 2.5-3.0 mm long, essentially wingless, or only narrowly winged at the apex, the pappus of 15-20 deciduous bristles 1-3 mm long; those of the disk similar but the body 2-sided, radially compressed.

REPRESENTATIVE SPECIMENS: ECUADOR. Bolívar: en la quebrada de Atiacagua, road between Chillanes-Tambillo-Trigoloma, 1800-1850 m, 6 Sep 1987, *Zak & Jaramillo 2770* (F,MO,NY,TEX,US). Cañar: between Ducur and Cochancay, 1600-1800 m, 13 May 1974, *Harling & Anderson 14579* (US). Chimborazo: ca. 35 km NE of Bucay, along the road to Riobamba, ca. 4200 m, 30 Jan 1976, *King & Garvey 6960* (F,MO,NY,US). Loja: ca. 2 km N of Loja, ca. 6100 ft, 25 Jan 1976, *King & Garvey 6908* (F,MO,NY,US).

PERU. Amazonas: near Ubilon, between Chachapoyas and Leimebamba, 1950-2000 m, 12 Apr 1950, *Ferreya 7099* (MO,US). Cajamarca: Prov. Conchucos, ca. 10 km above Cascas, 1835-1900 m, 14 Apr 1986, *Dillon et al. 4504* (F,TEX); Andalo (San Beito-Yelen), ca. 1800 m, 1 Apr 1981, *Sagástegui 9624* (F,MO). Ica: 44 km eastward along road to Puquio, 2335 m, 15 Mar 1971, *Ellenberg 4907* (US). La Libertad: Prov. Otuzco, Chanchacap (Agallpampa-Salpo), ca. 260 m, 24 May 1984, *Sagástegui 11669* (F,NY,TEX,US). Lambayeque: Prov. Lambayeque, 28 km E of Olmos, 1150-1200 m, 4 Jan 1964, *Hutchinson & Wright 3405* (F,GH,NY,US). Lima: Matucana, ca. 8000 ft, 12 Apr - 3 May 1922, *Macbride & Featherstone 300* (F,GH,US). Piura: Prov. Huancabamba, between Olmos and Jaén, 2000-2100 m, 22 Apr 1964, *Ferreya 15654* (US).

DISTRIBUTION AND ECOLOGY (Figure 3): Montane habitats in tropical deciduous forests from central Ecuador southwards to central Perú, mostly 1100-2600 m; flowering mostly January-May.

Perymenium jelskii is a widespread, highly variable species, especially in leaf shape and vestiture. In general, plants from the provinces of Bolívar, Chimborazo, and Cañar in Ecuador have somewhat larger leaves than occur in the more southern populations. But exceptions to this generality occur, thus *Sagástegui* 9821 (F, from Cajamarca Province, Perú) has leaves fully as large as those from populations to the far north; likewise, *King & Garvey* 6908 (from Loja, Ecuador, cited above) have leaves fully as reduced as occur in populations south of Lima, Perú.

Blake, in his description of *Perymenium ecuadoricum*, noted that the latter was "closely related to the Peruvian *P. jelskii* ..." but reckoned it differed in having "griseous" rather than "pale green" vestiture on the undersurface of leaves and was also said to have shorter petioles (4-7 mm long vs. 7-20 mm). The 80 or more collections from over a wide area assembled since that time clearly suggest that but a single variable species is involved.

Perymenium lineare S.F. Blake, J. Bot. 53:135. 1915. TYPE: COLOMBIA(?). Magdalena: without further locality, 1852-1853, *Warscewicz s.n.* (HOLOTYPE: K; Fragment holotype: GH!). This locality is questionable. Blake, in penciled notation on his personal reprint of the original description (TEX), noted the type specimen "is labelled simply 'Magdalena Warscewicz' and its reference to Colombia is based on inference: see the account of W's collecting in Bonplandia 1854, p. 95 et seq." However, Warscewicz collected in both northern Perú and Colombia (Dillon, pers. comm.) and it is likely that the plant concerned was collected in Perú. It is possible that the Colombian locale is correct, but the only other specimens I have examined, which match very closely the excellent description rendered by Blake, have been obtained in northernmost Perú (cf. specimens cited below). Indeed, the species was apparently first collected by Humboldt, presumably in either Colombia or northernmost Perú during his travels to that region during 1801-1802. His collection was given the provisional (unpublished) name *Perymenium rosmarini-folium* by Schultz-Bipontinus, who apparently received his material from the Humboldt herbarium (P). There is a fragment of this collection at US (presumably gathered by Blake himself) and a photograph of the Berlin plant examined by Schultz at NY!). I did not find specimens of this plant in the Humboldt Herbarium (IOC microfiche!). In any case I have mapped the species as occurring only in the Department of Piura, Perú until such time that undoubtable material is obtained from Colombia.

Shrublets or shrubs to 1.5 cm high. Stems brownish, strigose with upwardly appressed hairs. Larger leaves 4-8 cm long, 0.3-0.9 cm wide; petioles 2-5 mm

long; blades linear-lanceolate, bicolored, pinnately nervate, the lower surfaces tufted-pubescent with curly white hairs, the major veins with stouter straight appressed hairs, the margins mostly incurved, appearing entire. Heads 3-30, arranged in terminal cymes, the ultimate peduncles mostly 1-3 cm long. Involucres campanulate, 6-10 mm high, 6-10 mm across (pressed), 3-4 seriate, strictly appressed, graduate, pubescent with minutely appressed hairs, the apices obtuse to rounded, eciliate. Ray florets mostly 8-13, the ligules yellow, 10-15 mm long, 2-3 mm wide. Disk florets 20-40, the corollas yellow, 4-5 mm long, glabrous, the tube ca. 1 mm long. Anther appendages yellow, eglandular. Ray achenes 3-sided, wingless, ca. 3 mm long, the pappus of 10-15 bristles 1.0-1.5 mm long; disk achenes radially compressed, wingless, ca. 3 mm long, the pappus of 10-15 bristles 1-2 mm long.

DISTRIBUTION AND ECOLOGY (Figure 3): Northernmost Perú, District of Piura, ca. 2300 m; September.

ADDITIONAL SPECIMENS EXAMINED: PERU. Piura: Prov. Huancabamba, vicinity of Sapalache, ca. 2300 m, 4 Sep 1976, *Sagástegui A. 8602* (F,NY,TEX).

Because of its linear, pinnately-veined leaves this is a very distinct taxon, not likely to be confused with another. It is probably most closely related to *Perymenium featherstonei*, possessing the leaf-vestiture of that species.

EXCLUDED SPECIES

Perymenium klattii B.L. Rob. & Greenm., Proc. Amer. Acad. Arts 34:525. 1899. = *Steiractinia klattii* (B.L. Rob. & Greenm.) S.F. Blake, Contr. U.S. Natl. Herb. n.s. 52:49. 1917.

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